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08/985,141

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/985,141	12/03/92	KATSURA K	501.26967X00

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LM41/1208

EXAMINER
ZIMMERMAN M

ART UNIT	PAPER NUMBER
2772	25

DATE MAILED: 12/08/97

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
07/985,141	Katsura et al
Examiner: Mark K. Zimmerman	Group Art Unit: 2772

☒ Responsive to communication(s) filed on *Sep 11, 1997*.

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *44-66* is/are pending in the application.

Of the above, claim(s) *none* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *44-66* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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IMPORTANT NOTICE

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Effective November 16, 1997, the Examiner handling this application will be assigned to a new Art Unit as a result of the consolidation into Technology Center 2700. See the forth coming Official Gazette notice dated November 11, 1997. For any written or facsimile communication submitted ON OR AFTER November 16,1997, this Examiner, who was assigned to **Art Unit 2412**, will be assigned to **Art Unit 2772**. Please include the new Art Unit in the caption or heading of any communication submitted after the November 16,1997 date. Your cooperation in this matter will assist in the timely processing of the submission and is appreciated by the Office.

1. Regarding the reissue declaration, applicant states in the remarks section that a supplemental declaration is attached, however, no such paper has been filed. The following is based upon the last received supplemental declaration filed August 17, 1995. Also, evaluation is based upon amended 37 C.F.R. 1.175 which is now effective retroactively.

2. Claims 44-66 are rejected as being based upon a defective reissue declaration under 35 U.S.C. § 251. See 37 C.F.R. § 1.175.

3. The supplemental reissue oath or declaration is defective because it fails to particularly specify the errors relied upon, as required under 37 C.F.R. § 1.175(a)(5).

Page 3 of the supplemental declaration identifies the error as the applicant's not realizing that the invention could have been claimed more broadly to include only "a first bus having M lines interconnecting a memory and a memory controller and a second bus having N lines interconnecting data processor and the memory controller, herein N and M are integers and N is greater than M, and that the memory controller transfers M bits of data to and from the memory in a time shared fashion and transfers N bits of data in parallel to and from the data processor." Because the present claims are more narrow (conversion means, first and second conversion means, conversion in response to an indication from the processor, storage for temporarily storing graphics data, . . .), the error stated in the supplemental declaration no longer applies to the present claims.

4. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Claims 44-58, 63-66 are rejected under 35 U.S.C. § 103 as being unpatentable over Graciotti (4,716,527) in view of Takenaka (63-83844) and Pinkham (4,796,231).

a. As per independent claims 44, 49, 57 and 63, Graciotti discloses at column 3, lines 1-50 a system which converts data to make an m byte wide data bus compatible with an n byte wide data bus (where n > m) by

arranging or extracting upper and lower portions. Graciotti discloses at column 3, lines 9-11 and 48-50 that the operation is bidirectional. Graciotti further discloses at column 5, line 34 through column 6, line 36 that means are provided for selecting the lower byte and higher byte. Graciotti shows in figure 1 that storage means (31, 38 and 39) are provided for temporarily storing data. Graciotti further discloses at column 3, lines 61 through column 4, line 5 that the conversion is in response to signals from the microprocessor.

Regarding the language in claim 63 directed to "terminals", Graciotti discloses an integrated circuit implementation of a circuit interfacing two data buses. The examiner takes official notice that it was known in the art at the time the invention was made that integrated circuits included terminals for physically connecting the circuit to data lines, address lines and signal lines.

It is noted that Graciotti does not explicitly disclose that graphics data is processed, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Graciotti as claimed because Graciotti discloses a bus conversion system for general purpose use including Input/output devices (column 2, line 48) and floppy disk controllers (column 2, lines 13-33) and such devices are often used to process graphics data. For example, it is well known in the art that input devices such as

scanners and output devices such as crt displays require a memory for storing graphics data. It is also well known that graphics data can be stored in files which in turn can be stored on floppy disks. Since Graciotti does not limit the disclosed invention to any one type of data, it would have been obvious to one of ordinary skill in the art at the time the invention was made to used the conversion system disclosed by Graciotti for graphics data because this is suggested by Graciotti's disclosure at column 2, line 48 that the invention may be used for input/output devices.

It is also noted that Graciotti does not explicitly disclose that retrieval is within "a predetermined period of time", however, this is known in the art as disclosed by Takenaka. Takenaka discloses a bus interface similar to Graciotti's and further discloses that the time required to the processor to access the ROM 11 is a predetermined period of time equal to two times the access time of the ROM. It would have been obvious to one of ordinary skill in the art at the time the invention was made to configure Graciotti as claimed because it is well known in the art that computer systems usually define a predetermined time for accessing memory (memory access time) and Graciotti teaches that the conversion is to be transparent, therefore it would have been obvious to maintain the predetined memory access time of the processor as claimed.

It is also noted that Graciotti does not explicitly disclose the claimed conversion means, however, this is known in the art as taught by Pinkham. Pinkham shows in figure 1 a memory access controller which includes storage means (34, 36, 38, 40 and 66) and means for converting the stored data into serial data for output to a display. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Pinkham into the system because, as noted above, Graciotti suggests use in a display system and Pinkham discloses that memory for displays usually requires conversion of data into serial form.

b. As per dependent claims 46-48, 50-56, 58, 64 and 65, both Graciotti and Takenaka disclose a system which changes a single 16-bit memory access into two 8-bit memory accesses within a predetermined time (the time for the two 8-bit memory accesses).

c. As per dependent claim 66, Graciotti discloses that each m (8) bit portion is either the upper or lower portion of the n (16) bit data.

d. As per dependent claim 45, it is noted that Graciotti does not explicitly disclose a multiplexor, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature because Graciotti does disclose a system which selects between two portions of a word and multiplexors are often used to perform such selections.

e. As per claims 57-58, in addition to the rationale provided above, Pinkham also discloses the use of row and column addressing.

5. Regarding the rejections under 35 USC 103, applicant first argues that the newly added feature of converting the data in response to an indication from the processor is not disclosed in the prior art. As noted in the rejection above, this is disclosed by Graciotti at column 3, line 61 through column 4, line 5.

Applicant also argues that Graciotti does not disclose successive retrieval from memory of successive groups of m bits of data during a predetermined period of time. The examiner has addressed this limitation in the previous office action (paper number 22, mailed March 11, 1997) at page 7. This rationale has been repeated in the rejection above. Applicant has not addressed the rationale provided by the examiner.

Applicant also argues that the examiner has not pointed to any objective teaching in the references for combining the references. Applicant's attention is directed to the previous office action (paper number 22, mailed March 11, 1997) at page 7, lines 11-12 and page 7, line 23 through page 8, line 2 where the examiner did point to specific teaching in the references that provide objective support to the motivation for combining the

references. This rationale has been repeated in the rejection above. Applicant has not addressed the rationale provided by the examiner.

Applicant further argues that it would be impossible to combine the references as applied in the rejection to arrive at the present invention. In response, the test for obviousness is not whether the features of one reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the combination of references makes obvious to one of ordinary skill in the pertinent art.

Regarding claim 63, applicant argues that the examiner has not addressed several features. In response:

- the rejection has been clarified regarding the language "terminal".

- storage was addressed in the previous office action (paper number 22, mailed March 11, 1997) at page 6, lines 5-6 and page 7, line 18. This rationale has been repeated in the rejection above. Applicant has not addressed the rationale provided by the examiner.

- it is unclear what limitation applicant is referring to by the word "performing".

- the fact that Graciotti disclose supplying data to an output device was addressed in the previous office action (paper number 22, mailed March 11, 1997) at page 6, line 12. This rationale has been repeated in the rejection above. Applicant has not addressed the rationale provided by the examiner.

- converting was addressed in the previous office action (paper number 22, mailed March 11, 1997) at page 5. This rationale has been repeated in the rejection above. Applicant has not addressed the rationale provided by the examiner.

Regarding claims 64-66, applicant argues that the examiner has not shown any of the limitations of these claims. Applicant's attention is directed to the previous office action (paper number 22, mailed March 11, 1997) at page 8, lines 3-10. This rationale has been repeated in the rejection above. Applicant has not addressed the rationale provided by the examiner.

6. **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Zimmerman whose telephone number is (703) 305-9798. He can normally be reached Monday-Thursday and alternate Fridays from 7:30am-5:00pm.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Heather Herndon, can be reached on (703) 305-9701.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Mark K. Zimmerman
Primary Examiner
Group 2770

MZ
December 5, 1997